OIPE IAP28
JAN 16 2007
PATENT & TRADEMARK OFFICE

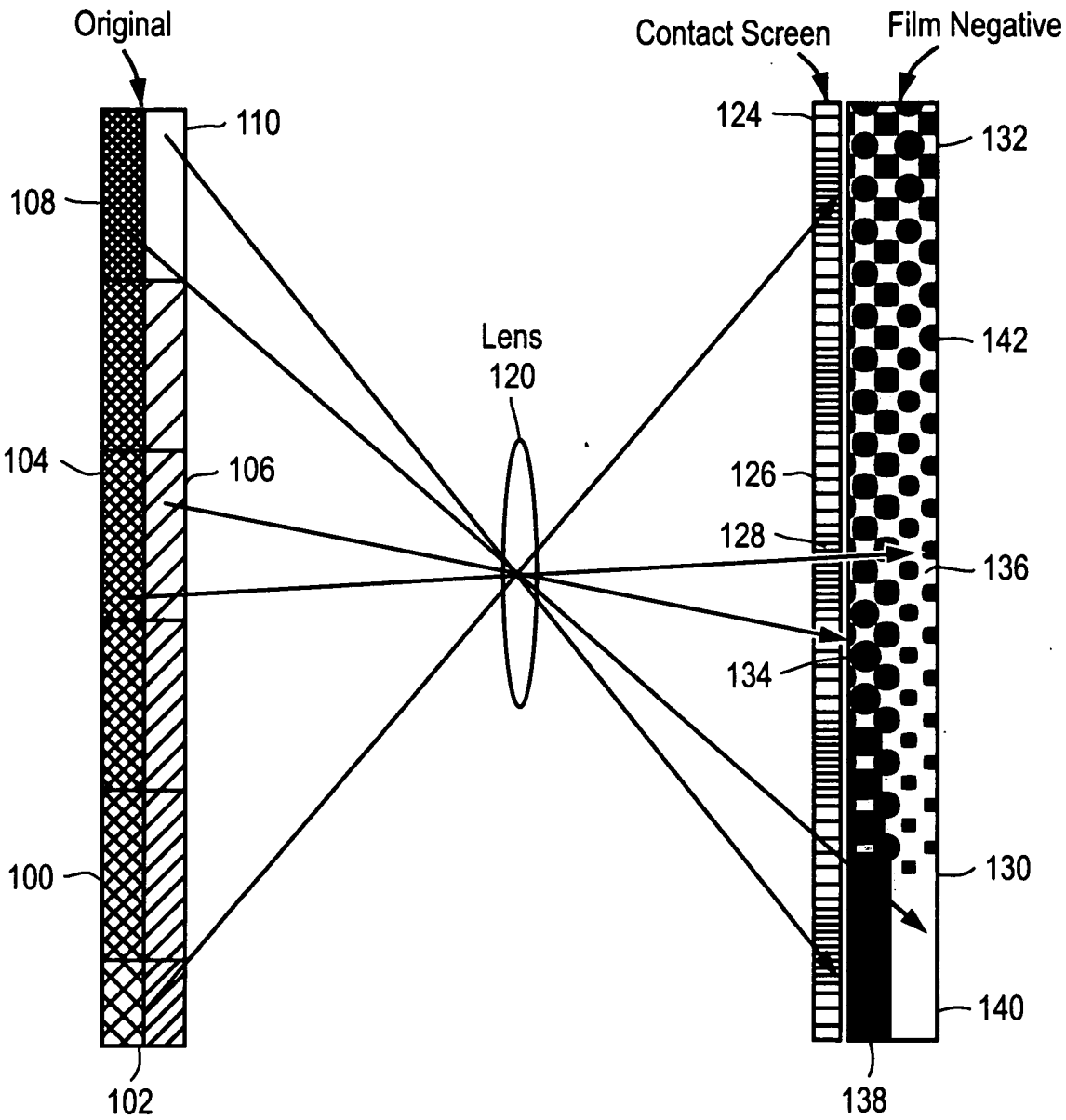
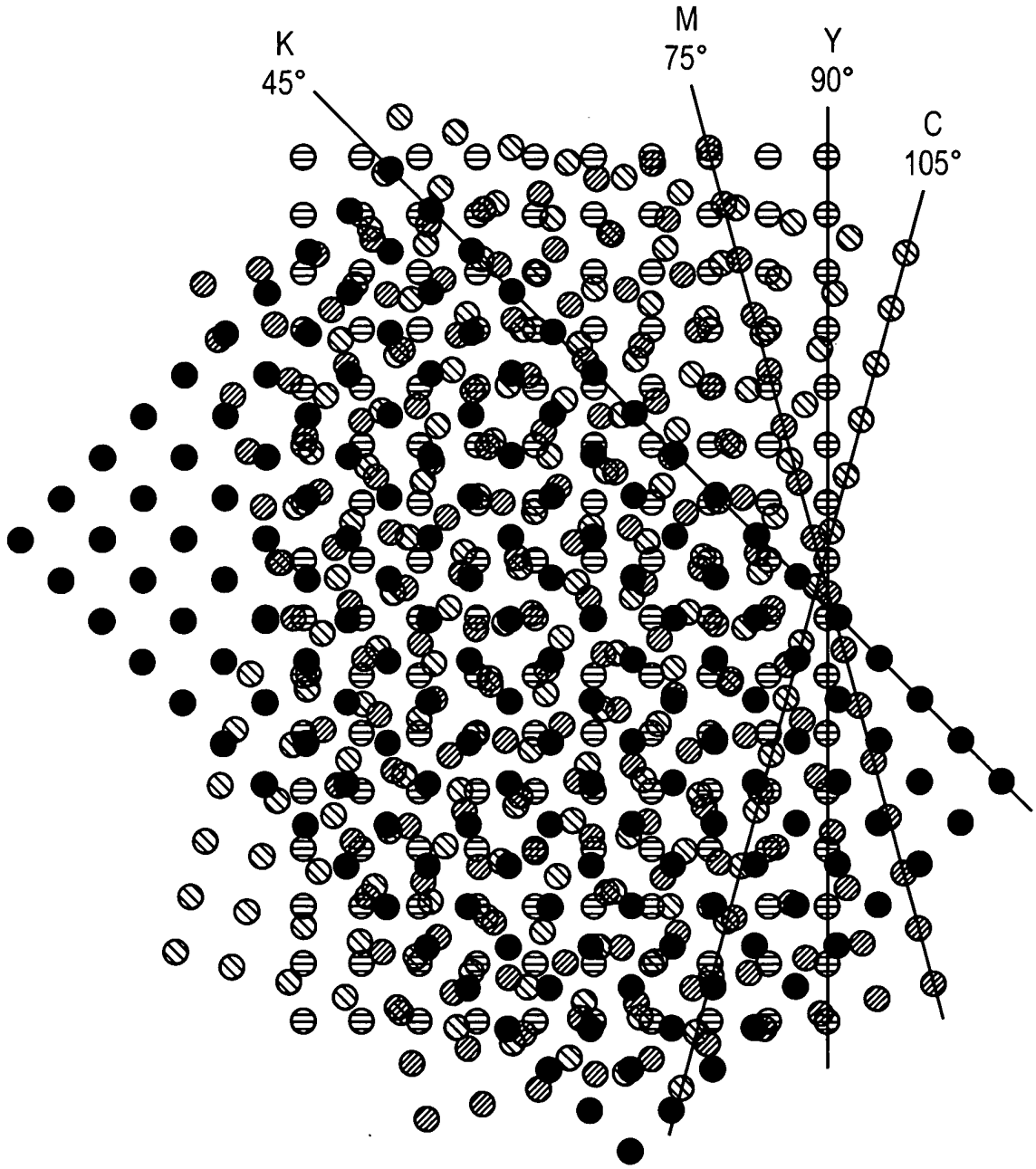


FIG. 1



Traditional Screen Angles

FIG. 2

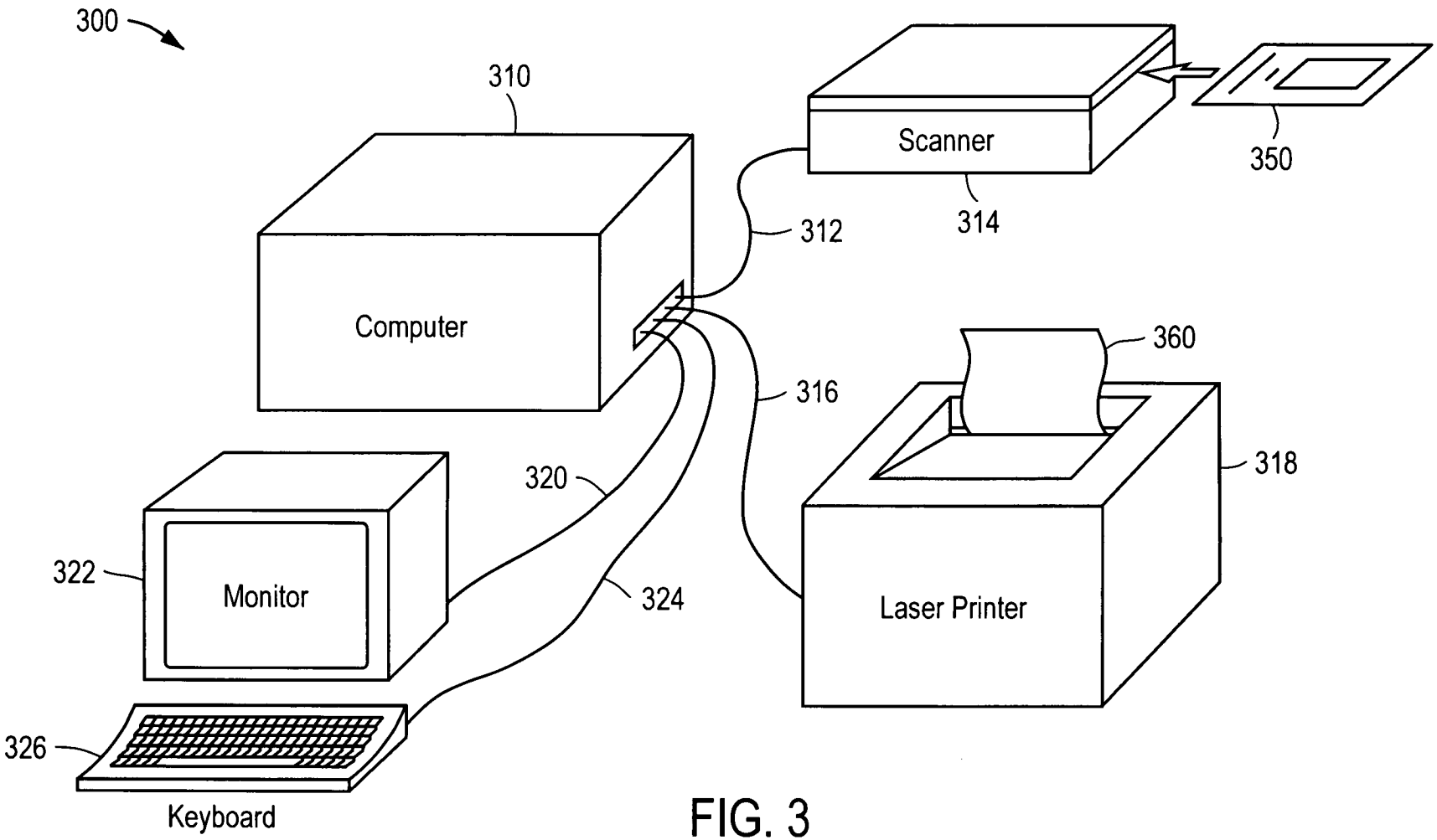

300
310
Scanner
350
314
312
Computer
360
316
318
320
322
Monitor
324
Laser Printer
326
Keyboard

FIG. 3

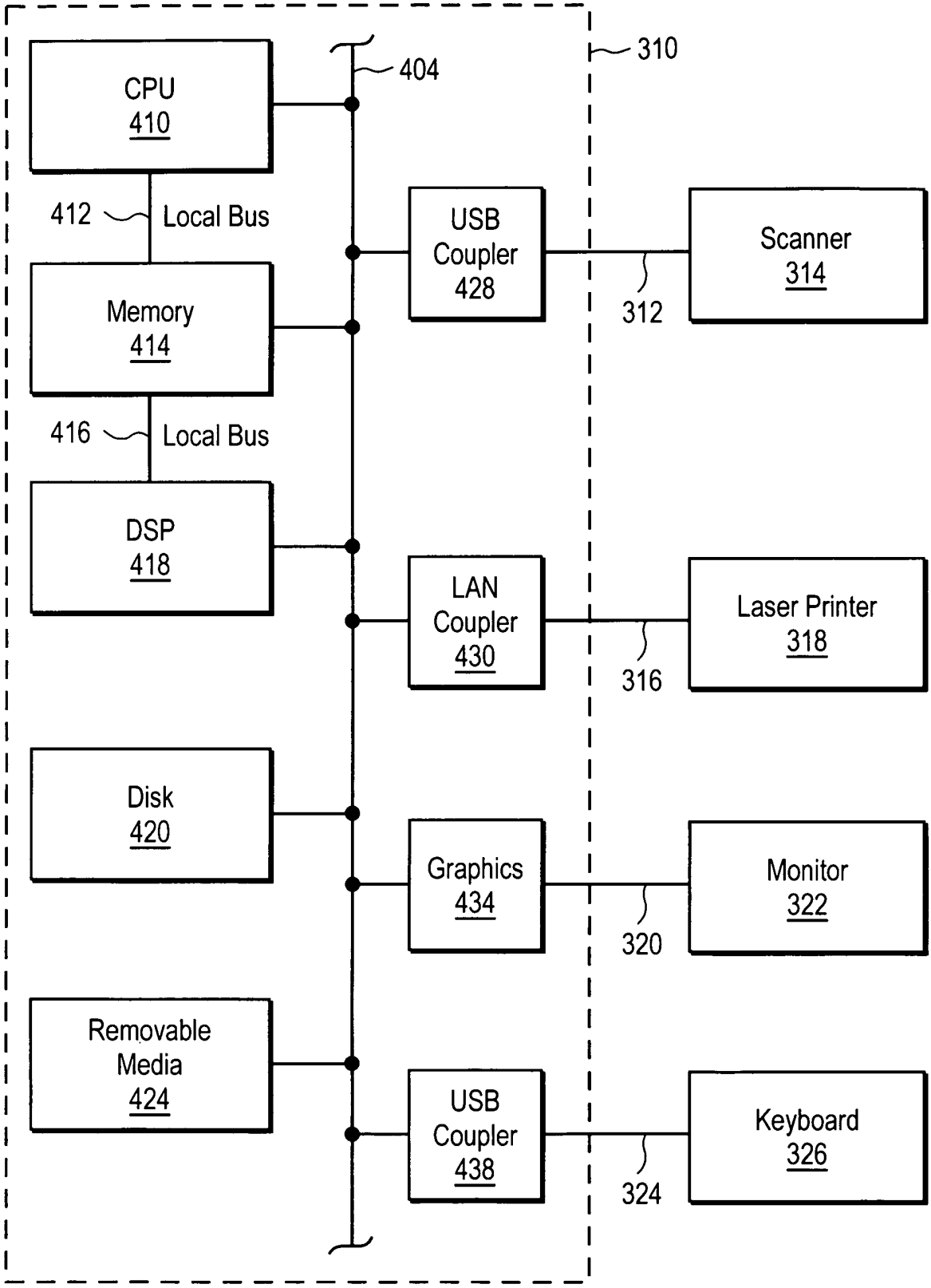

310
404
CPU
410
412
Local Bus
Memory
414
416
Local Bus
DSP
418
Disk
420
Removable
Media
424
USB
Coupler
428
312
Scanner
314
LAN
Coupler
430
316
Laser Printer
318
Graphics
434
320
Monitor
322
USB
Coupler
438
324
Keyboard
326

FIG. 4

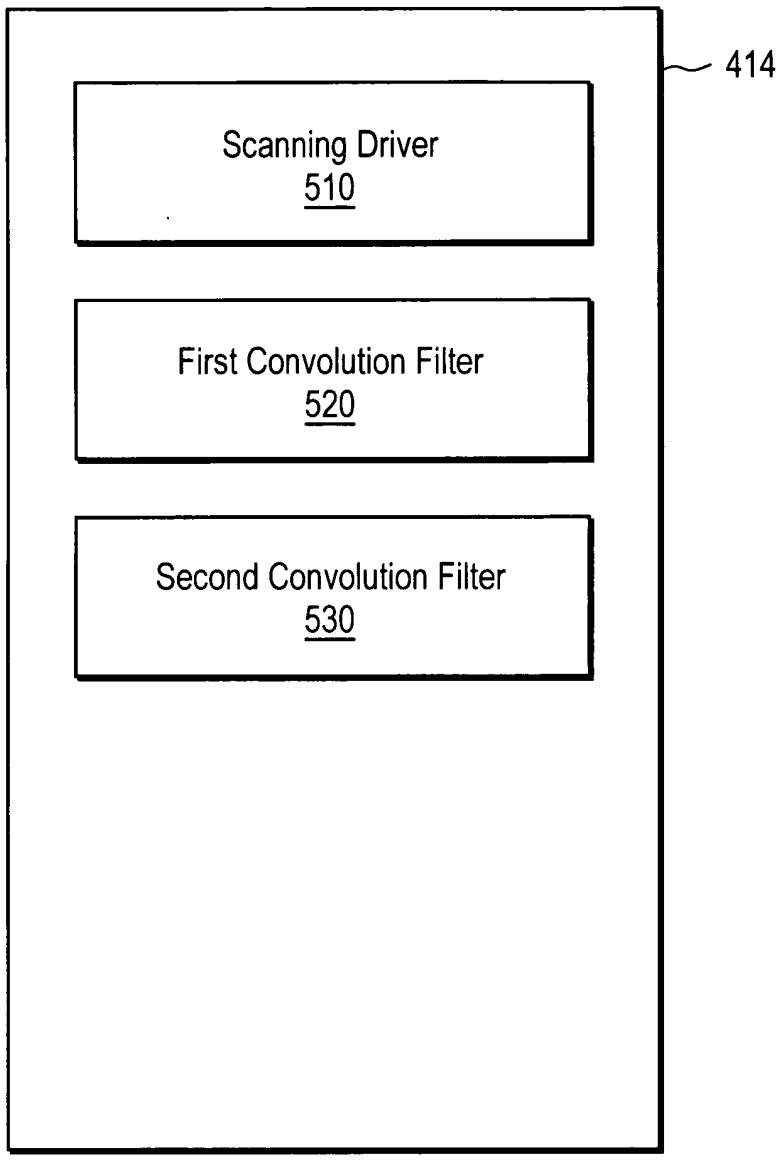

414
Scanning Driver
510
First Convolution Filter
520
Second Convolution Filter
530

FIG.5

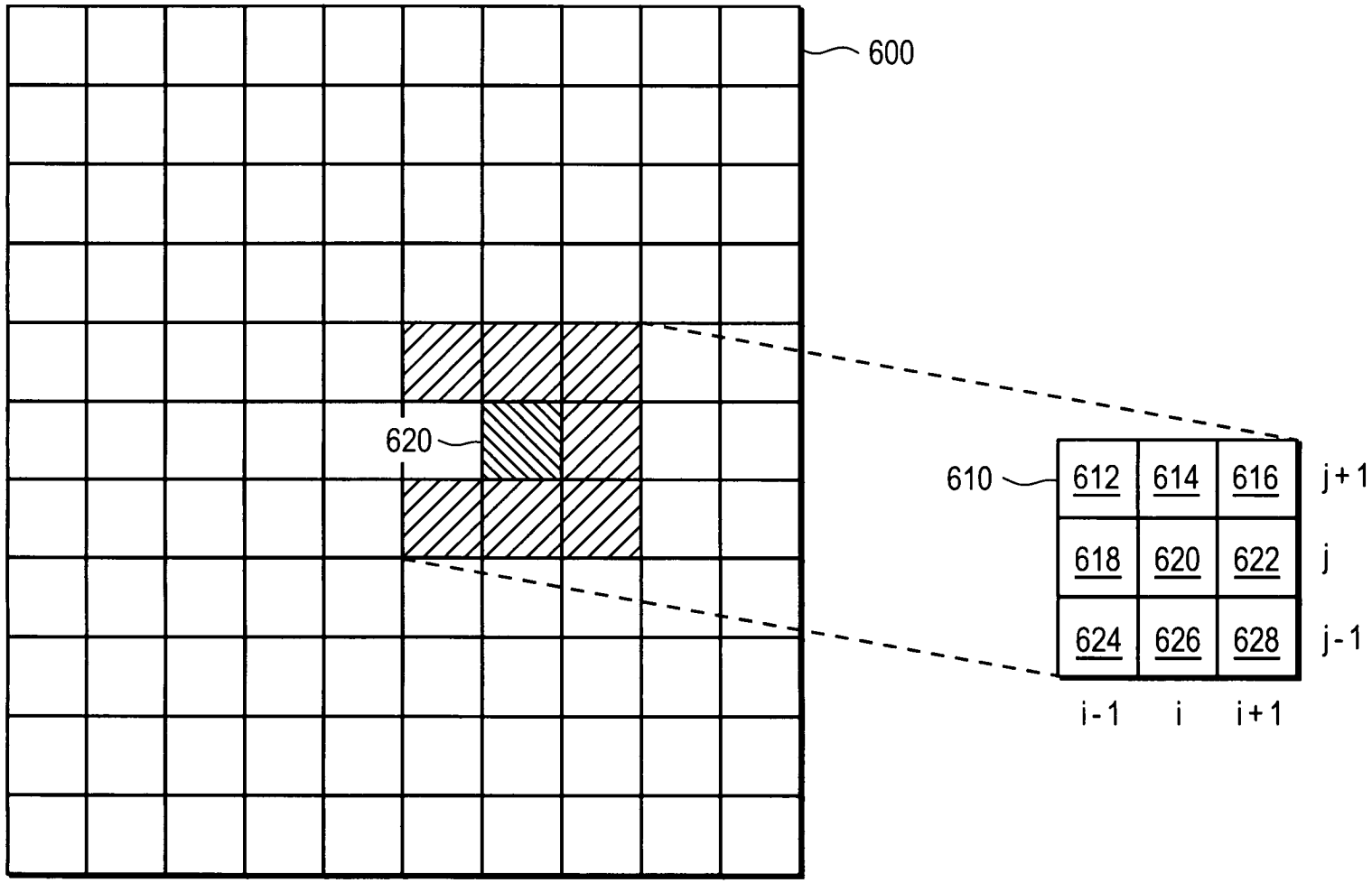
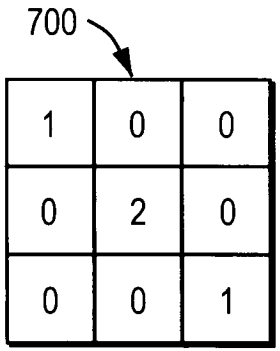


FIG. 6



$c_{-1,1} = c_{1,-1} = 1$

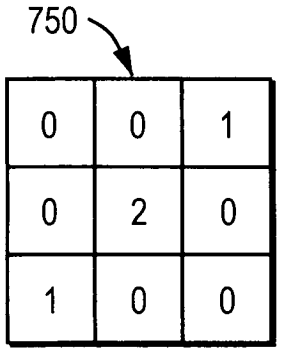
$c_{0,0} = 2$

All other $c_{kl} = 0$

$$b_{ij} = \sum_{k=-1}^{1} \sum_{l=-1}^{1} a_{(i+k)(j+l)} \, c_{kl} =$$

$$= a_{(i-1)(j+1)} + a_{(i+1)(j-1)} + 2a_{ij}$$

FIG. 7A



$c_{-1,-1} = c_{1,1} = 1$

$c_{0,0} = 2$

All other $c_{kl} = 0$

$$b_{ij} = \sum_{k=-1}^{1} \sum_{l=-1}^{1} a_{(i+k)(j+l)} \, c_{kl} =$$

$$= a_{(i+1)(j+1)} + a_{(i-1)(j-1)} + 2a_{ij}$$

FIG. 7B

FIGURE 8: IMAGE SCANNED USING THE ASTRA 2400S

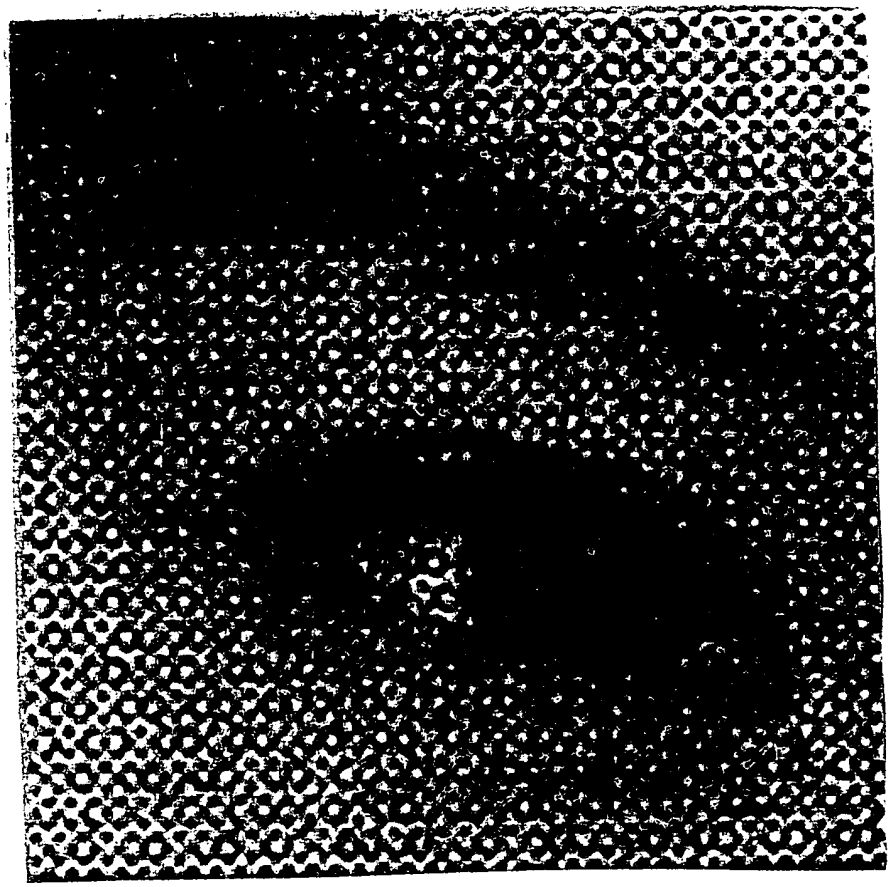


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FIGURE 9: OUTPUT OF FIRST CONVOLUTION FILTER

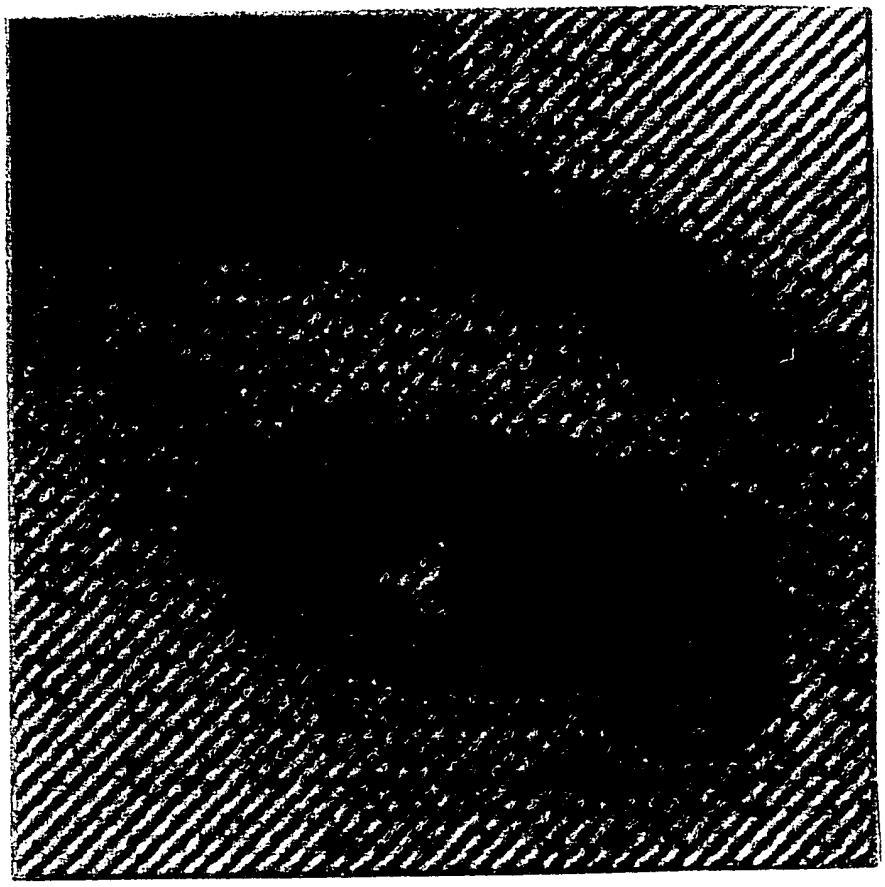

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FIGURE 10: OUTPUT OF SECOND CONVOLUTION FILTER

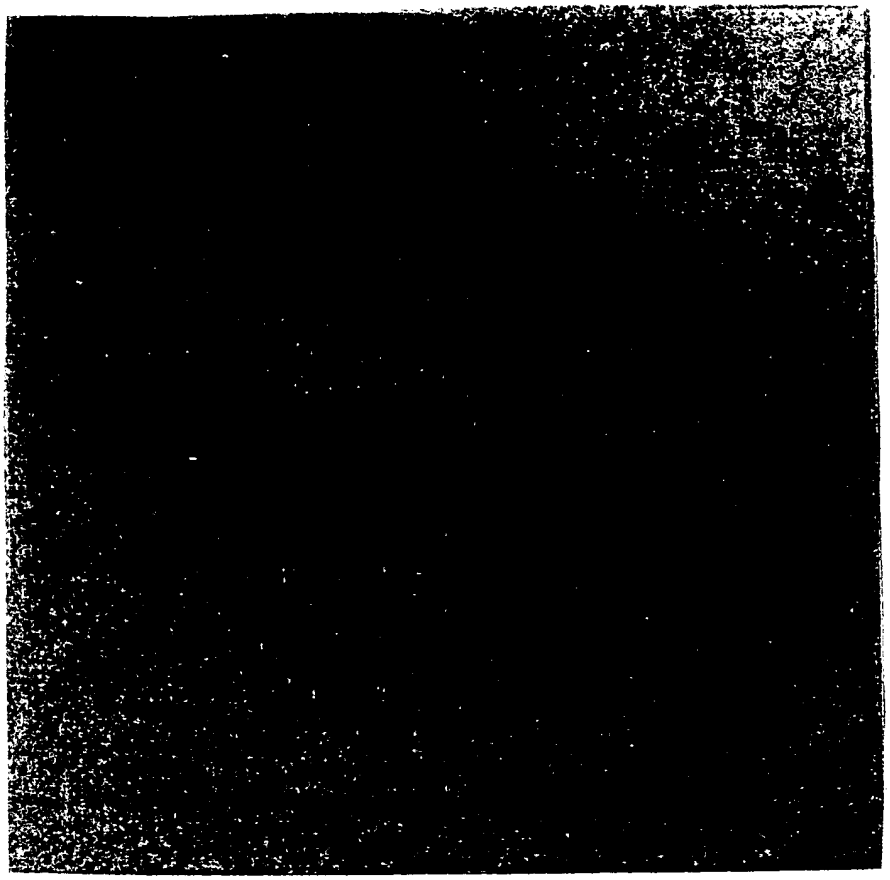

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FIGURE 11: SCREEN CONVERSION FILTER FREQUENCY RESPONSE

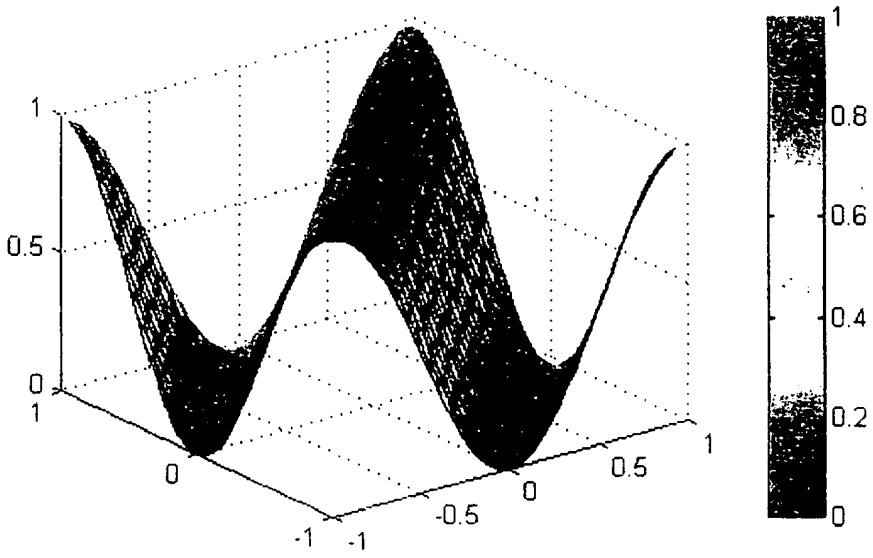

FIGURE 12: LINE SMOOTHING FILTER FREQUENCY RESPONSE

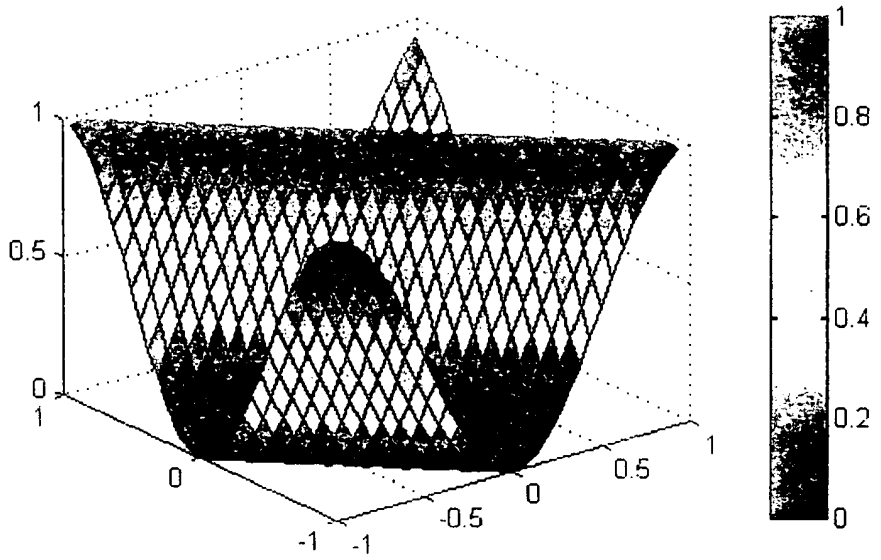
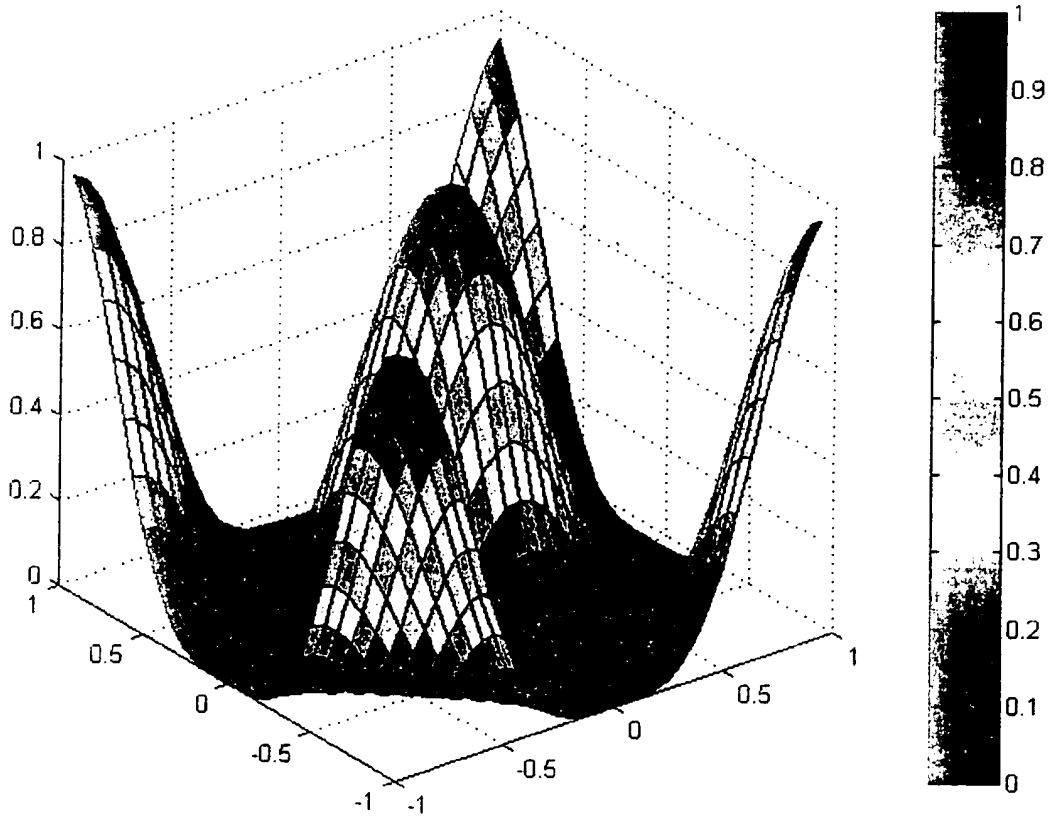
FIGURE 13: DESCREENING FILTER FREQUENCY RESPONSE